

REMARKS

STATUS OF CLAIMS

Claims 1-21 are pending.

Claims 5-10 are withdrawn.

Claims 1-4 and 11-21 are elected, of which elected claims 11-15, 16, and 20-21 are allowed.

Claim 16 is objected to for informalities, but allowed after correction of the informalities.

Claims 1-4 and 17 are rejected under 35 USC 103(a) as being unpatentable over Yael Adini, Yael Moses, Shimon Ullman, Face recognition: The Problem of Compensating for Changes in Illumination Direction; July 1997; IEEE Transactions on Pattern Analysis and Machine Intelligence; pages 721-732 (hereinafter Adini).

Claims 18-19 are rejected under 35 USC 103(a) as being unpatentable over Adini in view of Fukui (US Patent No. 6,466,685).

Claims 1-4, 16, 17, 18, and 19 are amended, and thus, claims 1-4, 17, 18, and 19 remain rejected, and pending for reconsideration, which is respectfully requested.

No new matter has been added in this Amendment. The foregoing rejections are hereby traversed.

TITLE

The Examiner objects to the title of the invention for not being descriptive. The title of the invention, taking into consideration the Examiner's comments, is replaced as follows: --

PICTURE MATCHING PROCESSING ACCORDING TO ENVIRONMENT VARIATIONS SYSTEM. Withdrawal of the objection to the title is requested.

REJECTIONS

INDEPENDENT CLAIMS 18-19

Claims 18-19 are rejected under 35 USC 103(a) as being unpatentable over Adini in view of Fukui (US Patent No. 6,466,685). Page 6, item 8, of the Office Action. Although item 8 of the Office Action cites Fukui US Patent No. 6,466,685, however, it appears that the Examiner's rejection rationale is based upon cited Fukui (US Patent No. 5,982,912) (Fukui 912). In particular, the Examiner in page 6, relies on Fukui 912, column 3, lines 54-67. Applicants

respectfully request clarification of the same, if necessary, in a next non-final Office Action.

Concerning independent claims 18 and 19, Adini does not provide any disclosure, suggestion or motivation to be modified, to apply **window picture group** cutting, feature value calculating in the cut window picture group, and window selection in the cut window picture group, across **a picture group of a recognition target in different capturing environments**.

As the Examiner also acknowledges in page 6, item 8, of the Office Action, Adini does not disclose the present claimed invention's feature value calculation processing, as recited in independent claims 18 and 19. So the Examiner in pages 6-7 of the Office Action generally relies on Fukui 912, column 3, line 54 to column 4, line 15.

Independent claim 18 is patentably distinguishing over Adini and Fukui 912, because in contrast to Adini and Fukui 912, the present claimed invention as recited in independent claim 18 provides, "feature value calculating processing of calculating a feature value representing **features of the cut out a out window picture group**," in which "window picture cutting processing of cutting out a characteristic **window picture group from each picture of the recognition target**." Therefore, the present claimed invention as recited in independent claim 18 provides a benefit of applying feature point extraction processing across **a picture group of a recognition target in different capturing environments**. The Examiner asserts that Fukui 912's feature point extraction including an eye or nose hole from the face area (column 3, lines 64-67) is similar to the present claimed invention's "cutting out a characteristic window picture group," and then Fukui 912's pixel processing whose intensity value is lower than the threshold as part of the feature point extraction is similar to the present claimed invention's selecting a window picture in which variations in a feature value are small. However, Fukui 912's feature point extraction is applied to one input image and using templates to generate a normalized face image to be compared to a registered image for recognition (column 3, lines 54-63, and column 4, lines 31-44). So Fukui 912 does not disclose or suggest calculating a feature value representing features of a cut out window picture group, or, more particularly, Fukui 912 does not apply its feature point extraction processing across **a plurality of pictures of a recognition target in different capturing environments as a picture group**. Therefore, even if Fukui 912 is combined with Adini, the alleged combined system would not disclose or suggest the present claimed invention as recited in independent claim 18.

Further, regarding independent claim 19, Fukui 912 column 4, lines 1-2, which is relied upon by the Examiner in page 7 of the Office Action, does not disclose or suggest the present claimed invention's "window picture selecting processing of **comparing feature values** of the

window pictures ***corresponding to each other in the same site of the recognition target as a window picture set***, among the window pictures cut out from each selected picture, and ***selecting only a window picture set in which the difference in a feature value is within a predetermined threshold value***" (claim 19, emphasis added). The Examiner asserts that Fukui 912's feature point extraction including an eye or nose hole from the face area (column 3, lines 64-67) is similar to the present claimed invention's "cutting out a characteristic window picture group," and that Fukui 912's pixel processing whose intensity value is lower than the threshold (column 4, line 1) as part of the feature point extraction, is similar to the present claimed invention's selecting a window picture in which variations in a feature value are small.

First, independent claim 19 does not recite as suggested by the Office Action, page 7, lines 1-3, "selecting a window picture in which variations in a feature value are small."

Second, in contrast to Fukui 912, the present claimed invention as recited in independent claim 19 provides "calculating a feature value representing features of the ***cut out window picture group***" and "***comparing feature values of the window pictures corresponding to each other in the same site of the recognition target as a window picture set***, among the window pictures cut out from each selected picture, and ***selecting only a window picture set in which the difference in a feature value is within a predetermined threshold value***. In other words, Fukui 912 does not disclose or suggest calculating a feature value representing features of a cut out window picture group, or, more particularly, Fukui 912 does not apply its feature point extraction processing across ***a plurality of pictures of a recognition target in different capturing environments as a picture group***, and does not provide any suggestion or motivation to be combined with Adini, because Fukui 912's feature point extraction is applied to one input image and using templates to generate a normalized face image to be compared to a registered image for recognition (column 3, lines 54-63, and column 4, lines 31-44).

Even Adini does not provide any disclosure, suggestion or motivation, to be modified to apply ***window picture group*** cutting, feature value calculating in the cut window picture group, and window selection in the window picture group, across ***a picture group of a recognition target in different capturing environments***, as recited in independent claim 18 and 19, which the Examiner acknowledges by having to rely on Fukui 912, but Fukui 912's feature point extraction is applied to one input image and using templates to generate a normalized face image to be compared to a registered image for recognition (column 3, lines 54-63, and column 4, lines 31-44).

Accordingly at least independent claim 19 is allowable over Adini and Fukui 912.

INDEPENDENT CLAIM 1 AND 17

Claims 1-4 and 17 are rejected under 35 USC 103(a) as being unpatentable over Adini.

A patentably distinguishing feature of the present claimed invention as recited in independent claims 1 and 17, is “***selecting a window picture*** in which the ***influence of variations in a capturing environment is at a predetermined level or less among the cut out window pictures***, based on results of the evaluation of the influence of variations in a capturing environment” (emphasis added). In page 5, of the Office Action, the Examiner asserts that Adini suggests this claimed feature in page 721, 2nd column, 2nd full paragraph. The Examiner also relies on Adini, page 724, 1st column 2nd full paragraph and 2nd column, 1st and 2nd full paragraphs.

Independent claims 1 and 17 are amended to correct their recitation by emphasizing the foregoing argued patentably distinguishing features concerning independent claims 18 and 19 of applying ***window picture group*** cutting, feature value calculating in the cut window picture group, and window selection in the cut window picture group (as now recited in amended independent claim 1 and 17), across ***a picture group of a recognition target in different capturing environments***. Therefore, in contrast to Adini, the present claimed invention, using amended independent claim 1 as an example, provides:

1. (CURRENTLY AMENDED) A picture matching processing system, comprising:

a window picture cutting part for cutting out a characteristic window picture picture group from a previously captured pictures of a recognition target picture in different capturing environments;

a capturing environment variation influence evaluating part for evaluating the influence of variations in at the capturing environment environments of the cut out window pictures picture group; and

a window picture selecting part for selecting a window picture in which the influence of variations in a capturing environment is at a predetermined level or less from among the cut out window pictures picture group, based on results of the evaluation of the influence of variations in at the capturing environment environments,

wherein picture matching is conducted by using the selected window picture.

Withdrawal of the rejection of claims 1-4 and 17 is respectfully requested.

WITHDRAWN CLAIMS 5-10

Furthermore, as also asserted in the previous Response to Election of Species Requirement (page 2), at least independent claim 1 as now amended herein becomes generic with respect to withdrawn embodiment I independent claims 5 and 9, and, thus, it is respectfully requested as provided in 37 CFR 1.141 that non-elected withdrawn embodiment I claims 5-10 be reinstated and allowed in event of allowance of amended independent claim 1.

CONCLUSION


In view of the claim amendments and the remarks, withdrawal of the rejection of claims 1-4, 17, and 18-19, and allowance of claims 1-4, 17, and 18-19 is respectfully requested.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

Respectfully submitted,
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